# Kalaupapa National Historical Park – Water Year 1993

210902156553201 Lower Waikolu Stream, Hawaii

LOCATION –Lat 21° 09' 01"N, Long 156° 55' 29"W, Island of Molokai, Maui County, Hydrologic Unit 20050000, 7.0 miles northeast of Kaunakakai, Molokai, HI, 1.75 miles south of confluence with Pacific Ocean, about 100 feet below diversion for Molokai Irrigation System pump station.

DRAINAGE AREA - 2.4 mi<sup>2</sup>.

PERIOD OF RECORD – June 1992 to September 1996.

GAGE - Water-stage recorder. Elevation of gage is 720 feet above mean sea level, as determined by USGS 7.5 minute map (NAD 27).

REMARKS – Daily discharge values are considered poor due to numerous data corrections.

Discharge, cubic feet per second WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

					DAIDI	MEAN VAL	OES					
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										0.60		3.2
2										0.60		2.6
3										0.60		2.5
4										0.60		2.5
5										0.60		2.5
6										0.60		2.2
7										0.60		0.44
8												0.43
9												1.4
10												0.43
11												0.44
12												1.9
13												0.49
14									0.33			0.57
15									0.50			0.46
16									0.53			0.45
17									0.79			0.45
18									0.40			0.46
19									0.39		0.38	0.45
20									0.38		0.58	0.46
20									0.50		0.50	0.10
21									0.35		0.69	0.46
22									0.34		0.64	1.7
23									0.42		0.40	0.46
24									0.62		1.6	0.60
25									0.62		2.1	0.46
26									0.60		2.1	1.3
27									0.55		2.1	0.46
28									0.60		2.0	0.46
29									0.59		2.1	0.47
30									0.59		7.0	0.47
31											21	
TOTAL												31.17
MEAN												1.04
MAX												3.2
MIN												0.43
AC-FT												62
STATIS	TICS OF MO	NTHLY MEA	N DATA FO	R WATER Y	EARS 1993	- 1993,	BY WATER	YEAR (WY	)			
MEAN												1.04
MAX												1.04
(WY)												1993
MIN												1.04
(WY)												1993

# Kalaupapa National Historical Park – Water Year 1994

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GAGE - Water-stage recorder. Elevation of gage is 720 feet above mean sea level, as determined by USGS 7.5 minute map (NAD 27).

REMARKS – Daily discharge values are considered poor due to numerous data corrections.

Discharge, cubic feet per second WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.47	0.92	4.4	0.39	0.96	0.74	2.1	2.1		0.15	0.33	1.3
2	0.63	0.86	2.5	0.40	1.2	1.2	2.1	1.6		0.15	0.34	2.3
3	1.9	2.3	3.0	0.37	1.0	1.4	2.1			0.15	0.36	4.9
4	2.1	3.1	18	0.35	19	1.4	1.4			0.14	0.37	2.2
5	2.5	0.67	4.3	0.34	7.9	1.5	2.0			0.14	0.38	1.9
3	2.5	0.07	4.5	0.54	7.5	1.3	2.0			0.11	0.50	1.7
6	2.0	0.52		24	9.4	1.4	2.0			0.17	0.38	1.3
7	0.47	0.48	6.1	2.0	1.1	1.3	1.7			14	0.37	1.1
8	1.5	3.0	3.2	0.86	3.5	1.2	2.3			0.30	0.35	2.8
9	2.3	23	2.3	0.71	4.0	1.3	2.2			0.16	0.63	3.1
10	2.0	1.5	2.2	0.67	1.6	1.3	3.2			0.14	1.7	2.4
11	1.8	0.55	2.2	0.64	5.6	29	16			0.26	1.8	2.1
12	0.84	0.85	2.4	0.58	22	40	57			0.12	2.2	10
13	2.2	1.2	3.5	0.62	2.2	5.9	16			0.12	2.4	2.7
14	0.87	3.9	2.8	0.55	55	6.1	3.6			0.12	2.3	2.3
15		0.76	2.3	0.53	1.7	3.5	2.9			1.1	1.7	2.0
13		0.70	2.3	0.55	1.7	3.3	2.9			1.1	1.7	2.0
16		3.3	2.3	0.55	1.2	1.5	2.3			0.50	2.0	1.2
17		4.8	4.8		12	2.1	2.6		0.49	3.1	2.5	1.4
18		2.5	7.8		0.76	1.0	4.5		8.3	7.7	2.5	3.9
19		2.4	6.7		0.72	1.7	37		2.0	0.12	3.5	10
20		2.4	2.5		0.58	4.6	56		0.20	0.12	3.4	1.3
21		2.3	2.4		0.63	5.1	10		0.19	0.12	2.4	1.2
22		7.1	2.2		0.66	10	9.3		0.34	0.12	1.8	1.4
23		149	2.1			104	3.8		0.37	0.13	5.0	0.66
24		10	2.1		0.81	133	3.4		0.44	0.95	5.0	0.64
25		6.1	2.0		0.62	128	2.8		31	0.59	2.3	0.67
26		16	2.0		0.60	14	2.4		0.81	1.5	8.9	0.64
27		15	1.0		0.62	25	2.1		2.9	3.0	0.61	0.75
28		4.6	0.37		0.61	11	2.1		0.29		0.39	0.76
29		5.6	0.36	0.87		3.2	1.6		0.17		2.2	0.69
30		6.1	0.35	0.84		1.4	2.0		0.15		1.6	0.68
31	1.9		0.35	0.80		2.0					1.4	
TOTAL		280.81				544.84	258.5				61.11	68.29
MEAN		9.36				17.6	8.62				1.97	2.28
MAX		149				133	57				8.9	10
MIN		0.48				0.74	1.4				0.33	0.64
AC-FT		557				1080	513				121	135
STATIST	rics of 1	MONTHLY ME	AN DATA F	OR WATER	YEARS 19	93 - 1994,	BY WATER	YEAR (WY	)			
MEAN		0.36				17 6	0.60				1 07	1 66
MEAN MAX		9.36 9.36				17.6 17.6	8.62 8.62				1.97 1.97	1.66 2.28
		9.36 1994				17.6					1.97	
(WY)							1994					1994
MIN		9.36				17.6	8.62				1.97	1.04
(WY)		1994				1994	1994				1994	1993

SUMMARY STATISTICS WATER YEARS 1993 - 1994

 HIGHEST DAILY MEAN
 149
 Nov 23 1993

 LOWEST DAILY MEAN
 0.12
 Jul 12 1994

 ANNUAL SEVEN-DAY MINIMUM
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Discharge, cubic feet per second WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.74	1.1	8.4	0.32	1.3		0.67	0.40	1.3	1.3	3.4	0.91
2	0.75	2.1	0.85	0.29	1.5		0.40	1.2	0.97	0.82	1.5	1.3
3	0.68	0.83	13	0.33	1.5		17	1.6	1.3	0.74	1.0	1.3
4	0.56	2.7	0.40	0.98	1.5		95	0.53	1.6	1.1	0.96	1.3
5	0.53	1.8	2.5	0.72	3.8		3.7	0.88	1.4	0.78	1.3	1.0
6	0.53	0.29	2.8	0.41	10		0.67	8.4	0.92	1.0	1.3	0.99
7	0.50	2.7	39	0.28	0.84		1.1	6.7	4.8	0.82	0.91	1.0
8	0.54	0.86	19	0.28	1.4		1.9	1.1	0.46	1.2	0.98	0.92
9	0.53	1.6	13	0.55	1.2	2.0	1.9	0.34	1.1	1.2	2.1	
10	0.47	6.4	33	0.64	4.8	0.44	0.64	0.32	1.5	1.0	1.2	
11	0.45	1.5	7.3	0.93	0.46	0.36	0.92	0.33	1.5	0.90	2.9	
12	0.50	5.1	1.2	2.1	0.27	0.60	1.9	2.4	1.4	0.82	1.6	0.65
13	0.38	8.9	0.78	2.1	0.73	6.6	2.0	0.29	1.3	0.81	1.4	0.59
14	0.33	4.1		11	35	0.47	3.3	0.30	1.5	0.92	1.0	0.58
15	0.35	1.2	0.55	3.1	2.5	0.33	12	2.6	1.5	1.1	0.92	0.62
16	0.36	18	1.1	0.34	1.1	0.29	5.7	4.8	1.5	1.2	2.4	0.77
17	0.30	11	2.5	0.34	1.0	0.29	0.64	2.3	1.7	0.90	2.4	0.77
18	1.5		∠.5 0.55	0.37		0.29	0.64		1.7	0.90		
		12			1.4			0.41			1.4	0.71
19	2.4	1.6	0.47	0.81	1.3	0.84	1.8	0.33	1.7	0.94	1.2	0.62
20	0.41	1.1	0.44	0.48	1.3	1.1	1.3	0.31	1.7	1.7	1.2	0.54
21	0.79	1.0	0.40	0.32	0.88	1.3	1.3	0.31	1.7	0.65	1.2	0.64
22	0.29	1.7	0.37	0.31	1.2	2.0	44	0.31	1.7	0.36	0.93	0.57
23	0.29	1.3	0.37	0.35	0.94	0.99	20	0.31	1.7	0.37	0.94	0.68
24	0.80	1.6	0.34	0.62	0.94	1.2	1.9	0.31	1.6	0.59	1.0	0.66
25	0.36	0.92	0.32	0.68	7.2	1.4	9.8	0.30	1.5	7.2	1.1	0.55
26	0.93	0.77	0.31	0.70	3.2	1.6		0.29	1.5	12	1.4	0.55
27	2.1	0.36	0.30	0.80	0.99	3.4		0.29	1.4	0.74	8.8	0.58
28	2.1	0.74	0.29	30	2.2	14	4.9	0.29	1.4	0.83	1.1	0.51
29	2.1	0.70	7.5	42		12	0.60	0.30	1.3	1.2	0.91	0.69
30	2.0	0.81	1.7	2.0		30	0.33	0.73	1.4	1.2	1.2	0.82
31	2.0		0.40	1.0		3.4		0.96		0.86	0.97	
TOTAL	26.60	94.78		105.25	90.45			39.94	46.05	46.07	50.62	
MEAN	0.86	3.16		3.40	3.23			1.29	1.53	1.49	1.63	
MAX	2.4	18		42	35			8.4	4.8	12	8.8	
MIN	0.29	0.29		0.28	0.27			0.29	0.46	0.36	0.91	
AC-FT	53	188		209	179			79	91	91	100	
STATIST	TICS OF M	ONTHLY ME	AN DATA	FOR WATER	YEARS 199	3 - 1995,	BY WATER	YEAR (WY	)			
MEAN	0.86	6.26		3.40	3.23	17.6	8.62	1.29	1.53	1.49	1.80	1.66
MAX	0.86	9.36		3.40	3.23	17.6	8.62	1.29	1.53	1.49	1.97	2.28
(WY)	1995	1994		1995	1995	1994	1994	1995	1995	1995	1994	1994
MIN	0.86	3.16		3.40	3.23	17.6	8.62	1.29	1.53	1.49	1.63	1.04
(WY)	1995	1995		1995	1995	1994	1994	1995	1995	1995	1995	1993
( /	1,,,,	1,,,,		1,,,,	1,,,			1,,,,	1,,,,	1,,,,		1,,,,

SUMMARY STATISTICS WATER YEARS 1993 - 1995

 HIGHEST DAILY MEAN
 149
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 LOWEST DAILY MEAN
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Discharge, cubic feet per second WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.64	0.42	0.26	0.70	0.31		3.7	2.1	2.3	0.75	0.60	1.4
2	0.40	0.39	0.25	0.49	0.34		0.64	1.8	2.3	0.66	0.65	1.4
3	0.48	0.50	0.25	0.36	0.41		0.65	1.9	2.1	0.92	0.60	0.91
4	0.38	0.49	0.29	0.25	0.40		1.2	2.4	2.0	1.8	0.60	0.66
5	0.41	0.49	0.35	0.98	0.28		1.1	2.4	2.0	21	0.60	0.50
-					***							
6	0.36	0.39	0.32	0.25	0.35		0.63	2.3	2.1	2.4	0.72	0.50
7	1.2	0.39	0.34	9.6	45	0.67	0.63	2.1	2.0	1.6	0.60	0.53
8	6.7	0.37	0.37	1.9	16	1.1	1.0	1.9	2.2	0.74	0.60	0.54
9	0.41	0.38	0.41	0.32	0.48	1.1	1.2	2.0	16	0.77	0.60	0.61
10	0.40	0.47	0.40	0.31	2.1	1.0	1.2	2.2	4.4	0.83	0.60	0.65
11	0.35	0.46	0.26	0.29	0.58	1.2	1.2	2.2	2.2	1.6	0.59	0.64
12	0.33	0.40	0.24	0.29	0.30	1.3	1.5	2.2	2.2	1.0	0.59	0.47
13	0.22	18	0.25	0.40	0.39	1.2	1.8	2.2	1.3	1.4	0.30	0.46
14	0.22	25	0.25	0.40	17	1.2	3.4	1.9	1.6	1.4	0.43	
												0.46
15	0.39	0.46	0.25	0.40	59	1.0	2.5	1.7	2.1	1.6	0.67	0.46
16	0.37		0.25	0.28	13	1.2	3.2	1.2	2.0	1.4	1.1	0.45
17	0.35		0.25	2.8	0.35	1.2	0.98	1.8	1.4	1.2	1.2	0.70
18	0.31		0.27	0.30	0.33	1.1	9.5	2.2		1.1	1.3	0.63
19	0.27		0.32	0.30	0.32	1.1	2.1	2.6		3.1	0.68	0.54
20	0.27		0.33	0.40	0.50	1.1	2.1	2.6		1.6	0.53	0.49
21	0.44		0.34	0.39	0.59	13	2.6	2.5	1.2	1.5	0.62	0.48
22	0.42	0.40	0.27	0.31	0.43	1.7	2.0	2.6	1.6	1.4	0.53	0.48
23	0.39	0.50	0.25	0.27	0.53	8.7	1.8	2.6	1.8	1.4	0.54	0.49
24	0.49	0.38	0.25	0.27	0.56	26	2.1	2.7	0.99	0.79	0.54	0.46
25	0.51	0.46	0.26	0.27	1.9	2.7	2.1	2.4	1.4	0.63	0.55	
26	0.49	0.46	0.25	0.34	2.0	1.5	2.3	2.4	1.4	0.67	0.55	
27	0.45	0.28	0.25	0.42	24	1.3	2.6	2.4	1.3	0.60	0.75	
28	0.55	0.25	0.24	2.7		1.3	3.1	8.6	1.1	0.60	1.4	
29	34	0.30	0.26	0.32		1.3	3.0	3.4	1.6	0.60	1.4	
30	1.3	0.27	23	0.38		87	1.7	2.6	1.5	0.60	1.4	
31	0.62		44	0.38		40		2.5		0.60	1.4	
TOTAL	54.07		75.29	27.09			63.53	76.4		56.46	23.27	
MEAN	1.74		2.43	0.87			2.12	2.46		1.82	0.75	
MAX	34		44	9.6			9.5	8.6		21	1.4	
MIN	0.22		0.24	0.25			0.63	1.2		0.60	0.42	
AC-FT	107		149	54			126	152		112	46	
STATIST	TICS OF M	ONTHLY ME	CAN DATA E	FOR WATER	YEARS 199	3 - 1996,	BY WATER	YEAR (WY	)			
MEAN	1.30	6.26	2.43	2.13	3.23	17.6	5.37	1.88	1.53	1.65	1.45	1.66
MAX	1.74	9.36	2.43	3.40	3.23	17.6	8.62	2.46	1.53	1.82	1.43	2.28
MAX (WY)	1.74	1994	1996	1995	1995	17.6	1994	1996	1.53	1.82	1.97	1994
MIN												
	0.86	3.16	2.43	0.87	3.23	17.6	2.12	1.29	1.53	1.49 1995	0.75	1.04
(WY)	1995	1995	1996	1996	1995	1994	1996	1995	1995	TAAD	1996	1993

SUMMARY STATISTICS WATER YEARS 1993 - 1996

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